Imagine Mars: The Martians Building A Community (Part 1)

[00:00:00]The big problem we're all facing today is that the United States is falling behind other countries

[00:00:05]in science, engineering technology and mathematics and that is a big problem so the question is what do

[00:00:10]we do. Our solution that we have is a project called Imagine Mars, where we ask students

[00:00:15]to imagine, and design, a community on the planet Mars.

[00:00:27]Our area is Arabia Terra and the reason we chose it was because

[00:00:33]it's a flat surface, it's like a valley.

[00:00:36]Here, this my habitat on Mars but first we have the map here,

[00:00:41]pretty much explaining our position and our whole purpose of setting up.

[00:00:45]So right here is a placed called Helles Planitia, and it's like the lowest surface on Mars.

[00:00:51]It was somewhere in this area. OK so somewhere in this area. Close to the equator. Why did you guys choose

[00:00:57]that particular location on Mars to put your community? Well since we're on Mars and it's farther away from

[00:01:05]the sun, we want to try and get as much sunlight and heat as we can.

[00:01:07]Imagine Mars fits into this process called Project Based Learning. That means we give the students a task that

[00:01:13]they need to achieve and in order to achieve that task they need to learn things along the way.

[00:01:20]The task that we're giving them is they need to build a community on Mars.

[00:01:24]If we are going to another planet, we might as well start fresh and healthier.

[00:01:30]That is where I come in, because I am the head of botany and agriculture and I just, I am in charge of the

[00:01:35]plants and what we're going to eat, our nutrition plan, we won't be eating meat, you know, going be healthy

[00:01:47]in Mars. They started on this process, this exploration process to look into their own community,

[00:01:54]figure out the things they liked about it and the things they would change

[00:01:57]and they work with architects, took tours of these amazing places like the Center for Green Technology

[00:02:02]and they saw how green technology was being used throughout the city.

[00:02:08]and when we went to the Green Technology Center they had a wall of plants they didn't grown in the soil,

[00:02:15]they grew it like out of water they were hydroponic, so that's what we basically used, so we could grow

[00:02:20]our trees and vegetables. We also went to the Conservatory and the air quality was so perfect in there,

[00:02:28]and it was all captured off, so I guess if we have good captured off air we could filter that air into tanks

[00: 02:35]To keep fit and also to conserve energy and build up energy we have bikes hooked up to a main battery

[00:02:45]that's our secondary power source. The students had amazing ideas they created a lot solutions to living

[00:02:51]on the planet Mars, but it didn't end there. They had to visualize those ideas using 3D architectural

[00:02:57]software, and they only had a short time to do it but their energy

[00:03:02]and their excitement about their ideas really gave then momentum to learn this software

[00:03:17]and they went from not ever having touched or used the software before to coming up with these

[00:03:10]amazing designs that we see in this project.

[00:03:17]This habitat is called zero kelvin. First you will notice this tower. This is called the solar tower.

[00:03:24]The solar tower is a 90 foot high tower full of photovoltonic film. We up here, we have the

[00:03:31]solar panels they help with the heating and the air

[00: 03:35]We have an underground drilling system we drill into the surface of the ice, once we get to the ice layer,

[00:03:42]the ice surface, which is like a subterranean ice surface, because it is underground. The tip of the

[00:03:49]drill heats the surface of the ice, absorbs it through the drill and it hold it in these capsules,

[00:03:56]these capsules they have a UV light, on top of them to destroy any type of bacteria

[00:04:03]This was exciting this was something to do for summer that wouldn't have happened without Imagine Mars.

[00:04:09]And it was something that they can go back to school and report during the summer this is what I did

[00:04:16]they can write a paper on it they can apply the knowledge straight into the classroom which is

[00:04:20]really great because it emphasizes as I say before careers that normally wouldn't be exposed to kids

[00:04:27]technology, science and all the other careers and the kids now

[00:04:34]are talking about being architects, some of them being doctors, some of them

[00:04:40]being scientists themselves or engineers, so its really just a great career opener

[00:04:48]If you look at their projects and the amount of time that they actually were working with the software,

[00:04:53]I mean there is a major transformation in their knowledge and their skills and it just goes to show

[00:04:58]you what can happen when you give students a unique and engaging opportunity to learn.